OBJECTIVES: Diabetes imposes a substantial health and economic burden to patients and society. This study analyzed the lifetime health care expenditures and life years lost associated with diabetes in the United States. **METHODS:** Data from the National Health Interview Survey (NHIS), the NHIS linked Mortality Public-use Files, and the Medical Expenditure Panel Survey from 1997 to 2000 were used to estimate age-, race-, sex-, and body mass index (BMI)-specific risk of diabetes, mortality, and annual health care expenditures for both diabetics and non-diabetics. A Markov model populated by the risk estimates was used to compute life expectancy and total lifetime health care expenditures by age, race, sex, and BMI for diabetics and non-diabetics. **RESULTS:** Predicted life expectancy was longer for females than males and whites and other races than blacks. Predicted life expectancy for diabetics and non-diabetics consistently demonstrated an inverted U-shape for BMI across all subgroups, with highest life expectancy being for the overweight. Using U.S. adults aged 50 years as an example, we found that the life years lost associated with diabetes for white females with a BMI above 40 kg/m^2 was 12.3 years. Black females of the same age and degree of obesity lost 11.2 life years, followed by white males (7.0 years) and black males (5.4 years). Lifetime health care expenditures between individuals with and without diabetes with a BMI above 40 kg/m4^2 varied by race and gender: white females ($48,848), black females ($47,787), white males ($31,189), and black males ($26,634). **CONCLUSIONS:** Our results show that obesity is associated with large decreases in life expectancy and large increases in lifetime health care expenditures. In addition, diabetes decreased life expectancy by 2.6 to 23.4 years and increased lifetime health care expenditures by $6,048 to $121,247 depending on age, gender, race, and BMI classification.

PDB48

HETEROGENEITY OF HEALTH CARE COSTS AMONG MEDICARE ADVANTAGE PATIENTS WITH TYPE 1 DIABETES

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OBJECTIVES: Type 1 diabetes (T1D) and the associated comorbidities and complications create a financial burden for patients, caregivers, and the health care system. Understanding drivers of costs among specific patient sub-groups is important for targeting support initiatives. **METHODS:** Data from a large Medicare Advantage payer were used. Members diagnosed with T1D and 24 months of continuous enrollment were included. Baseline demographic, clinical, consumer/behavioral, and cost characteristics were analyzed. Quantile regression (QR) was used to model the relationship between baseline characteristics and health care costs during the follow-up period (12 months) across cost quantiles. QR results were compared to traditional ordinary least squares (OLS) regression. **RESULTS:** The sample included 877 patients with T1D (mean age 65.2 yrs; 52% female). Common comorbidities included cardiovascular disease (46%), nephropathy (43%), and retinopathy (40%). QR analysis identified many interesting findings. For example, female gender is associated with varying impact on costs across the continuum: lower impact in lower quantiles (-$24.61 in the 10th percentile, p<0.10) but considerably higher impact in the top quantiles (-$5,537 in the 95th percentile, p<0.10); however, no significant difference in costs was observed between genders in the OLS model. The presence of cardiovascular disease did not have a significant impact on costs in the OLS model, but showed a significant increase in costs in the lower quantiles ($429.08 in the 10th percentile) and a significant reduction in costs in the higher cost quantiles (-$4,737 and -$8,247; 90th and 95th percentiles, respectively). **CONCLUSIONS:** This study demonstrates the challenges in analyzing cost data due to variations in factors impacting health care costs across the cost continuum. Care should be taken when developing interventions directing resources at those most likely to benefit, as traditional regression analysis may be less useful than methods such as QR that provide more robust insights into patient sub-groups based on health care cost.

PDB49

BURDEN OF ILLNESS OF DIABETIC FOOT ULCERS IN CANADA

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OBJECTIVES: The primary objective was to estimate the national burden of illness in Canada for diabetic foot ulcer (DFU) for 2011. Secondary objectives included estimating the national incidence and prevalence of DFU, and the 3-year average cost for DFU incident cases. **METHODS:** Analyses were conducted using four national databases for the period April 1, 2006 to March 31, 2011, with cases being identified by ICD-10 CA codes. Resource utilization and costs, expressed in 2011 Canadian dollars, were estimated for DFU-related hospitalizations, emergency care (ER), same day surgeries, home care, long term care, physician visits and caregiver time losses. **RESULTS:** In Canada in the year 2011, DFU was attributed to 20,149 hospital admissions (408,585 days), 32,174 ER or clinic visits, 110,924 rehabilitation clinic visits, and 26,493 interventions, including 6,036 amputations and 5,796 surgical debridements. This acute institution care represented $455.0M, and with an additional $125.4M for home care and $63.1M for long term care, the annual cost for DFU-related care was $643.5M, or $25,141 annual cost per prevalent case. In 2011, the national prevalence of DFU was 25,597 cases (75.1 per 100,000 population), consisting of 16,161 men (63.1%) and 9,436 women (36.9%), and an estimated 14,449 incident cases. For an incident case of DFU, the average 3-year cumulative cost was $52,360. **CONCLUSIONS:** The annual burden for DFU cases that have at least one admission or ER/clinic visit over a 5-year period is higher than previously reported because of wound and vascular related admissions and procedures.

PDB50

ECONOMIC BURDEN OF DIABETIC PATIENTS IN PRIVATE AND PUBLIC HOSPITALS

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OBJECTIVES: The objective of the study was to estimate the direct and indirect cost of treatment among patients attending private and public hospitals. **METHODS:** A cross-sectional survey was conducted among total of 350 diabetic patients randomly selected including 175 each from private and public hospitals. The study was conducted from May to July 2012 including patients of having at least a year of illness and of 30 to 65 years of age. **RESULTS:** The mean total cost per visit by a diabetic patient to a private hospital was US $14.3 (95% CI: 12.70 -16.92) as compared to US $ 10.31(95% CI: 9.88- 12.36) for public hospital. Similarly, total direct cost for the treatment and care of patients per month was US$ 58.10 (95% CI: 41.33-62.12) in private hospital in comparison to US $ 33.22 (95% CI: 27.32- 36.88) for those attending public hospitals. The per capita is just US$ 742. **CONCLUSIONS:** The study concludes that there was high economic burden on the patients with diabetes getting care from private sector as compared to public hospitals.

PDB51

DIRECT AND INDIRECT COST OF DIABETES IN ITALY: A PREVALENCE PROBABILISTIC APPROACH

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OBJECTIVES: Diabetes Mellitus (DM) is a chronic-degerenative disease in the population connected to a high risk of onset of chronic complications and co-morbidities. Despite that, very low data are available on the cost associated. The objective of this study is to identify the available information about the epidemiology of the disease and to estimate the average annual cost incurred by the National Health Service (NHS) and by the Society for the treatment of diabetes in Italy. **METHODS:** A probabilistic prevalence cost of Illness model was developed in order to calculate an aggregate measure of the economic burden associated with the disease in terms of direct medical (drug, hospitalization, monitoring and AE) and indirect costs (absenteeism and early retirement) . A systematic review of the literature was conducted to determine both the epidemiological and economic data. Furthermore, a one-way and probabilistic sensitivity analysis with 5,000 Monte Carlo simulations were performed in order to test the robustness of the results and define a CI 95%. **RESULTS:** The model estimated a prevalence of 2.6 million of patients with drug therapies in Italy. The total economic burden of diabetic patients in Italy amounted to € 20.3 billion years (95% IC: € 18.61 - € 22.29 billion). Of these, 54% are associated with indirect costs (95% CI € 10.10 - € 11.62 billion) and 46% are attributable only to the direct costs (95% IC: € 8.11 - € 11 06 billion). **CONCLUSIONS:** This is a first study in Italy that aimed to estimate direct and indirect cost of diabetes with probabilistic prevalence approach. As might be expected, the lack of information means that the real burden of Diabetes is partly underestimated, especially about indirect costs. However, this approach can be very useful for policy makers in order to understand the economic aspects in the treatment of diabetes in Italy.

PDB52

ESTIMATING THE BURDEN OF ILLNESS OF PAINFUL DIABETIC PERIPHERAL NEUROPATHY IN CHINA

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OBJECTIVES: Painful diabetic peripheral neuropathy (pDPN) results from toxic effects of chronically high blood sugar on the peripheral nervous system. Symptoms include loss of sensation, discomfort and often severe pain in the feet, legs or hands. The study aims to determine and characterize the potential total direct and indirect costs associated with pDPN in China. **METHODS:** We created a one year model to estimate the burden of illness of pDPN in China. The model utilized a micro-costing approach. Direct health care costs were for primary treatment drugs, drugs for comorbidities, hospitalization utilization, tests, and outpatient visits. Indirect costs were projected due to both presenteeism (decreased productivity) and absenteeism (missing work). Prevalence rates and resource utilization frequency was informed by both publically available data and a questionnaire administered to local physicians. Both direct and indirect costs were informed by publically available data. Costs were reported in 2013 USD (1 USD = 6.07 RMB). **RESULTS:** We estimated that pDPN affects 30% of the diabetic population—an estimated 33,930,810 people in China. The total economic burden of illness of pDPN was estimated to be $110.5 billion per year ($60.8 billion and $49.7 billion from direct and indirect costs, respectively). Within direct health care costs were primary treatment drugs ($37.1 billion), drugs for comorbidities ($13.9 billion), tests ($7.3 billion), hospitalizations ($1.7 billion), and outpatient visits ($713 million). For indirect costs, $42.6 billion was associated with presenteeism via decreased productivity, and $7.1 billion was associated with absenteeism. The estimated total cost per year, per patient is estimated to be $3,255 ($1,791 and $1,465 from direct and indirect costs respectively). **CONCLUSIONS:** In China, the aggregate burden of illness for pDPN is estimated to be over $110.5 billion annually. New treatments for the disease may reduce its burden on society.

PDB53

COSTS OF SELF-MONITORING OF BLOOD GLUCOSE AND SELF-INJECTION OF INSULIN FOR PATIENTS WITH TYPE 2 DIABETES IN BEIJING AND TIANJIN: ESTIMATING COSTS OF SELF-USED DEVICES AND SUPPLIES

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OBJECTIVES: In diabetes management, self-monitoring of blood glucose (SMBG) and self-injection of insulin are necessary interventions to control blood glucose. However Chinese patients with type 2 diabetes (T2DM) have to pay almost all expenses for SMBG and self-injection from out-of-pocket. This paper is intended to calculate the costs of SMBG and self-injection for patients with T2DM in China. **METHODS:** A cross-sectional survey of patients with T2DM was carried out in one tertiary hospital in Tianjin and two community hopsitals in Beijing from October to December, 2011, which provided sufficient data for research question of this study. Costs of SMGB include glucometers and test strips; while costs of self-injection cover insulin pen